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New data on the present-day active fluid regime of fractured zones of crystalline basement and sedimentary cover in the eastern part of Volga-Ural region

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Abstract

The study area is the South Tatarstan Arch located in the Volgo-Ural Region, which is an enigmatic crustal segment occupying one third of the East European Platform. Monitoring studies have shown that fluid discharge processes are still active and time-dependent. This paper presents an integrated review of the geological, geophysical, hydrochemical and geochemical studies of the crystalline basement of Tatarstan. These studies are based on the stratigraphic and compositional schemes within the crystalline basement, the drilling of deep wells, the geodynamic activity of the fractured zones of the crystalline basement and the presence of fluids therein. Furthermore, the changes in the chemical composition of the basement waters are taken into account. © Springer-Verlag 2008.

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Keywords

Crystalline basement, Fluid, Fractured zones, Monitoring